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ferments of various fungi. The results constitute a number of detached facts not readily summed up in a review; however, some of the main points may be noted. The press-extract of some of the fungi was found to be incapable of splitting any of the sugars used, while the residue was found capable of active fermentation, showing that the ferments in these cases are incapable of being separated from the rest of the cell by the Buchner process. In the case of Aspergillus Wentii, both the extract and the residue fermented cane sugar, milk sugar, maltose, cellobiose, and raffinose. It is of special interest to note that some of the fungi were able to utilize as food disaccharides, which neither the expressed juice nor the residue were able to ferment. These sugars were probably assimilated directly. The behavior of raffinose varied with different fungi. With Aspergillus Wentii this sugar was split into d-glucose, d-fructose, and d-galactose. In five other cases it was split into d-fructose and melibiose, and in three cases into d-galactose and cane sugar.—H. Hasselbring.

The ring and cell wall of Oedogonium.—According to Van Wisselingh,^{3°} the cell wall of Oedogonium consists of two distinct layers; the outer containing little cellulose, but a large proportion of a characteristic membrane-forming material whose reactions are described, but whose chemical composition was not determined; while the inner wall is rich in cellulose and has a lamellate structure. The outer layer is lacking in the basal cell. The ring is a portion of the cell wall which arises by the intussusception of various membrane-forming materials, among which cellulose is prominent, especially in the centripetal portion. The rupture of the old wall and the stretching of the ring to form a new wall is about as usually described. The inner cellulose layer of the wall arises by apposition. The chemical tests and the observations are satisfactory so far as they go, but the subject is a much described and much discussed one, and it would seem that an investigator acquainted with technic, as Van Wisselingh is, could have advanced our knowledge much farther by adding a study of carefully stained sections.—Charles J. Chamberlain.

Anatomy of Saxegothaea.—Tison³¹ has investigated the vascular anatomy of Saxegothaea conspicua, especially that of the ovulate strobilus. This genus has received much attention recently (Norén, Stiles, Thomson), and investigators have been impressed by its suggestion of araucarian affinities. Tison concludes, from the behavior and distribution of the two systems of bundles found in the megasporophyll (one serving the sporophyll and the other the ovule), that Saxeogothaea is more nearly related to the araucarians than to the podocarps, but that through Microcachrys it is so definitely connected with the latter that the araucarians, Saxegothaea, and the podocarps should constitute a single group,

^{3°} WISSELINGH, C. VAN, Ueber den Ring und die Zellwand bei Oedogonium. Beih. Bot. Centralbl. 23:157-190. pls. 13-16. 1908.

³¹ TISON, A., Sur le Saxegothaea Lndl. Mém. Soc. Linn. Normandie 23:139–160. pls. 9, 10. 1909.